SUBJECT: GCE A-Level Computer Science   **YEAR:** 12 and 13

HEAD OF DEPARTMENT: Mr I Cole

SUBJECT LEAD: Mr A S Birkett

GROUPING POLICY: Mixed Ability

COURSE CONTENT:

Exam board = AQA

Specification link:

http://filestore.aqa.org.uk/resources/computing/specifications/AQA-7516-7517-SP-2015.PDF

This specification has been designed for students who wish to go on to higher education courses or employment where knowledge of Computing would be beneficial. One can study Computing and go on to a career in medicine, law, business, politics or any type of science. This newly reformed qualification shifts the emphasis of this course in the direction of Computer Science and Computation.

Computational thinking is a kind of reasoning used by both humans and machines. Thinking computationally is an important life skill. Thinking computationally means using abstraction and decomposition. The study of computation is about what can be computed and how to compute it. Computer Science involves questions that have the potential to change how we view the world. For example, we may be computing with DNA at some stage in the future, with computer circuits made of genes. This leads to the question, does the natural world 'compute'?

AS Examinations

PAPER 1
Problem Solving, Programming, Data Representation and Practical Exercise - topics 1 - 4

50% of AS Level
1 hour 30 minutes on-screen examination.

Preliminary material, a skeleton program (available in each of the programming languages) and, where appropriate, test data, for use in the exam is released in the Spring Term.
Students use these materials to answer a series of short questions and write/adapt/extend programs in an Electronic Answer Document provided by the exam board (AQA)

PAPER 2
Computer Components, The Stored Program Concept and The Internet - topics 5 – 9

50% of AS Level
1 hour 30 minutes written examination

Students answer a series of short-answer and extended-answer questions.

A Level Examinations

PAPER 1

Problem Solving, Programming, Operating Systems, Databases and Networking - topics 10 - 13

40% of A Level
2 hour 30 minutes on -screen examination.

Preliminary material, a skeleton program (available in each of the programming languages) and, where appropriate, test data, for use in the exam is released in the Spring Term.
Students use these materials to answer a series of short questions and write/adapt/extend programs in an Electronic Answer Document provided by the exam board (AQA)

PAPER 2

Problem Solving, Programming, Operating Systems, Databases and Networking - topics 14 - 21

40% of A Level
2 hour 30 minutes written examination

Compulsory short and extended answer questions.

Non Exam Assessment (NEA)

The Computing Practical Project

20% of A Level
Coursework, internally assessed, and moderated by the exam board (AQA).

Report written by the candidate documenting a programmed solution to a real problem associated with a user whose realistic needs should be taken into account when specifying, designing and implementing the solution.

Expectations

What students can expect from the ICT Department:

You will receive eight 1-hour lessons each fortnight giving a total of 8 hours taught time. The syllabus will be split between two teachers. Each teacher will cover different aspects of the course and will give you homework to increase your understanding of Computing. You can expect to receive homework from both your teachers at least once per week. It is expected that you will complete around 5 hours of work outside the classroom for Computing each week. All students are advised to use their time in school effectively to ensure they keep up to date with homework. In accordance with the school homework policy if you do not submit homework on time and to an acceptable standard you will be required to attend a homework detention to complete the work. Teachers will aim to mark homework promptly.

What the ICT Department expect from you:

You will always complete work to the best of your ability and submit any work on time to your teacher for marking. If at any point you feel you do not understand a topic it is essential you make your teacher aware of this. Ideally this should be in class whilst the topic is being covered, however you could also approach the teacher outside the classroom if you feel more comfortable doing this. You are expected to work independently at home checking through notes and carrying out additional research and reading to supplement class work as part of your homework.
You may also be expected to attend open evenings to support the department.